

**WHAT IS CLAIMED IS:**

- 1           1.       An apparatus comprising:  
2           a first integrated circuit mounted in a first package, the first package having a first set  
3           of electrical contacts and a first connector; and  
4           a second integrated circuit mounted in a second package, the second package having a  
5           second set of electrical contacts and a second connector, the second connector  
6           being electrically and physically coupled to the first connector, the first and  
7           second connectors being mating connectors.
- 1           2.       The apparatus as recited in claim 1 wherein the first set of electrical contacts  
2           are disposed on a first surface of the package and the first connector is disposed on a second  
3           surface of the package.
- 1           3.       The apparatus as recited in claim 2 wherein the second set of electrical  
2           contacts and the second connector are disposed on a same surface of the second package.
- 1           4.       The apparatus as recited in claim 3 wherein the second set of electrical  
2           contacts are coupled to a printed circuit board through an intermediate connector.
- 1           5.       The apparatus as recited in claim 4 wherein the intermediate connector is a  
2           socket.
- 1           6.       The apparatus as recited in claim 1 wherein the first and second connectors are  
2           male/female connectors.
- 1           7.       The apparatus as recited in claim 1 wherein the first and second mating  
2           connectors are electrically coupled via press fit connections.
- 1           8.       The apparatus as recited in claim 1 wherein the first and second connectors  
2           are removably coupled.



9. The apparatus as recited in claim 1 wherein high speed signals are routed over the first and second connectors and wherein power, ground and slower speed signals are routed over the first set of electrical contacts.

10. The apparatus as recited in claim 1 wherein power, ground and slower speed signals are routed over the second set of electrical contacts.

11. The apparatus as recited in claim 1 wherein one of the first and second integrated circuits is a microprocessor.

12. The apparatus as recited in claim 1 wherein the first set of electrical contacts are formed by one of solder balls, lands, pins, and wires.

13. The apparatus as recited in claim 1 wherein the first and second connectors carry signals for a standard microprocessor interface between the first and second integrated circuits.

14. The apparatus as recited in claim 1 wherein the first and second connectors are slidably engaged.

15. A method comprising:  
electrically coupling a first integrated circuit mounted in a first package through a first set of electrical connectors to a printed circuit board; and  
electrically connecting the first integrated circuit through a first package connector to a second integrated circuit mounted in a second package having a second package connector, wherein the first and second package connectors are mating connectors.

16. The method as recited in claim 15 wherein the second package is electrically coupled to the printed circuit board.



1           17.     The method as recited in claim 15 wherein the first and second package  
2 connectors are slidably engaged.

1           18.     The method as recited in claim 15 wherein the second package connector is  
2 electrically coupled to the first package connector via a solderless connection.

1           19.     The method as recited in claim 15 further comprising sending high speed  
2 signals over the first package connector and sending lower speed signals over the first set of  
3 electrical connectors.

20.     An integrated circuit assembly comprising:  
first means for electrically coupling a packaged integrated circuit to a printed circuit  
board;  
second means for directly electrically coupling the packaged integrated circuit to a  
second packaged integrated circuit without coupling through a printed circuit  
board.

21.     The integrated circuit assembly as recited in claim 20 wherein the first and  
second means are located on a first surface of the packaged integrated circuit.

22.     The integrated circuit assembly as recited in claim 20 wherein the first and  
second means are located respectfully on a first and second surface of the packaged  
integrated circuit.

23.     The integrated circuit assembly as recited in claim 20 wherein the second  
means for directly electrically coupling couples standard interface signals between the first  
and second packaged integrated circuit.

24.     A package assembly including an integrated circuit package for an integrated  
circuit die, comprising:  
a first set of electrical contacts for coupling to a printed circuit board; and



4 a connector disposed on a surface of the package for coupling to a mating connector  
5 on another integrated circuit package.

1 25. The package assembly as recited in claim 24 wherein the first set of electrical  
2 contacts and the connector are mounted on a bottom surface of the integrated circuit package.

1 26. The package assembly as recited in claim 24 wherein the first set of electrical  
2 contacts and the connector are mounted on opposite surfaces of the integrated circuit  
3 package.

1 27. The package assembly as recited in claim 24 wherein the first set of electrical  
2 contacts couple to the printed circuit board through a socket.